

REMARKS

Claims 1-8 are pending in the application.

Claims 1, 2, 5 and 7 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicant regards as his invention. It is believed that this Amendment is fully responsive to the Office Action dated **February 4, 2003**.

Claim Rejections under 35 USC §103

Claims 1, 5 and 6 are rejected under 35 USC §103(a) as being unpatentable over Ichikawa (U.S. Patent No. 5,377,278) in view of Kent et al. (U.S. Patent No. 6,047,084).

Ichikawa does not disclose "judging good or bad of a fastening condition of the electric wire by the crimping piece on a basis of the area calculated whether the area is less than or not less than a threshold value in image information obtained by the binary processing."

The present invention can never be supplemented by Kent since the coverage area of the lead is indeterminate and a threshold value is hard to fix. Thus, the disclosure of Kent cannot be introduced even by a person skilled in the art without relying on the teaching of the present invention.

In rejecting the claimed invention, the outstanding Office Action has specifically stated in relevant part that:

"Ichikawa does not disclose that an area of the crimped portion is calculated."

The Applicant agrees with this Office assessed shortcoming of Ichikawa. In attempt to overcome this shortcoming, the outstanding Office Action further stated in relevant part that:

"However, Kent discloses a method for determining whether a soldered connection is adequate by calculating the coverage area of the lead, and based on comparison to a threshold, deeming the connection to have been properly manufactured (col 13, ln. 59 to col. 14, ln. 3). Ichikawa and Kent are analogous art, since they are from a similar problem solving area, in that each involves determining whether an electrical connection is adequate. See Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983).

It is quite interesting that the Office would assert analogous art as reasons to combine Ichikawa and Kent et al. references. Regarding what can be regarded as analogous art, it has been decided that:

"One skilled in the art faced with the problem of preventing runaway, with that suggestion to use circuitry, would look for a solution among circuits employed by others faced with the same problem." Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983).

Therefore, it is clear from *Medtronic* that one skilled in the art faced with a problem, presented with general solutions to solve the problem, would look for a solution among the general solutions employed by others faced with the same problem.

Here, Ichikawa discloses a method and apparatus for inspecting a solderless terminal by image processing with a pretext of using a crimping piece to fasten an electric wire. Therefore, the context of the entire Ichikawa invention is unequivocally regarding a solderless connection.

In contradistinction, Kent et al. discloses an inspection method and system for inspecting whether adequate amount of solder paste is correctly applied. Therefore, the context of the entire Kent et al. invention is unequivocally regarding a solder paste connection.

It is clear that *Medtronic* stands that a skilled person in the art of inspecting solderless connections faced with a problem associated therewith, would look for a solution employed by others

faced with the same problem of inspecting solderless connections.

Given that the two prior art references disclose totally opposite approaches, one discloses solderless connections and the other discloses soldered connections, the outstanding Office Action has mis-applied *Medtronic* and in effect presents that *Medtronic* stands for a skilled person in the art of inspecting solderless connections faced a problem associated therewith, would look for a solution employed by other faced with a different problem of inspecting soldered connections. Again, this is simply a mis-application of *Medtronic*.

It is well settled that:

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The outstanding Office Action has indeed resorted to impermissible hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. As a result of relying upon impermissible hindsight reconstruction, the Office Action has totally misapplied *Medtronic*.

Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 2-4 are rejected under 35 USC §103(a) as being unpatentable over Ichikawa (U.S. Patent No. 5,377,278) in view of Kent et al. (U.S. Patent No. 6,047,084) and further in view of Shields et al. (U.S. Patent No. 5,899,959).

In rejecting the claimed invention, the outstanding Office Action has specifically stated in relevant part that:

"Ichikawa does not disclose that an area of the crimped portion is calculated."

The Applicant agrees with this Office assessed shortcoming of Ichikawa. In attempt to overcome this shortcoming, the outstanding Office Action further stated in relevant part that:

"However, Kent discloses a method for determining whether a soldered connection is adequate by calculating the coverage area of the lead, and based on comparison to a threshold, deeming the connection to have been properly manufactured (col 13, ln. 59 to col. 14, ln. 3). Ichikawa and Kent are analogous art, since they are from a similar problem solving area, in that each involves determining whether an electrical connection is adequate. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983)."

It is quite interesting that the Office would assert analogous art as reasons to combine Ichikawa and Kent et al. references. Regarding what can be regarded as analogous art, it has been decided that:

"One skilled in the art faced with the problem of preventing runaway, with that suggestion to use circuitry, would look for a solution among circuits employed by others faced with the same problem." Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983).

Therefore, it is clear from *Medtronic* that one skilled in the art faced with a problem, presented with general solutions to solve the problem, would look for a solution among the general solutions employed by others faced with the same problem.

Here, Ichikawa discloses a method and apparatus for inspecting a solderless terminal by image processing with a pretext of using a crimping piece to fasten an electric wire. Therefore, the context of the entire Ichikawa invention is unequivocally regarding a solderless connection.

In contradistinction, Kent et al. discloses an inspection method and system for inspecting whether adequate amount of solder paste is correctly applied. Therefore, the context of the entire Kent et al. invention is unequivocally regarding a solder paste connection.

It is clear that *Medtronic* stands that a skilled person in the art of inspecting solderless connections faced with a problem associated therewith, would look for a solution employed by others faced with the same problem of inspecting solderless connections.

Given that the two prior art references disclose totally opposite approaches, one discloses solderless connections and the other discloses soldered connections, the outstanding Office Action has mis-applied *Medtronic* and in effect presents that *Medtronic* stands for a skilled person in the art of inspecting solderless connections faced a problem associated therewith, would look for a solution employed by other faced with a different problem of inspecting soldered connections. Again, this is simply a mis-application of *Medtronic*.

It is well settled that:

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The outstanding Office Action has indeed resorted to impermissible hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. As a result of relying upon impermissible hindsight reconstruction, the Office Action has totally misapplied *Medtronic*.

Reconsideration and withdrawal of this rejection are respectfully requested.

Referring to claims 3 and 4, Ichikawa discloses that both the lighting arrangement and the camera can be positioned in a variety of positions in order to inspect the crimp. The specification of the instant application does not disclose why such positioning is a critical limitation over the prior art.

Since independent claim 2 already patentably distinguished over the asserted prior art, all claims dependent thereon, including claims 3-4, are also patentably distinguished over the asserted prior art.

Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 7 and 8 are rejected under 35 USC §103(a) as being unpatentable over Ichikawa (U.S. Patent No. 5,377,278) in view of Kent et al. (U.S. Patent No. 6,047,084), Shields et al. (U.S. Patent No. 5,899,959) and further in view of Hoki (U.S. Patent No. 5,774,574).

Since independent claim 2 already patentably distinguished over the asserted prior art, all claims dependent thereon, including claims 7-8, are also patentably distinguished over the asserted prior art.

Reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

In view of the aforementioned amendments and accompanying remarks, claims 1, 2, 5 and 7, as amended, are in condition for allowance, which action, at an early date, is requested.


If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Version with markings to show changes made

Q 110A11RS M1AU 011296 Amendment 5-20-03

IN THE CLAIMS:

Please amend claims 1, 2, 5 and 7 as follows:

1. (Amended) An inspection method of a terminal metal fitting having [an] a wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising the steps of:

illuminating the wire connecting portion fastened to the electric wire;

binary-processing an image of the wire connecting portion being illuminated;

calculating whether an area is less than or not less than a threshold value in image information obtained by the binary processing; and

judging good or bad of a fastening condition of the electric wire by the crimping piece on a basis of the area.

2. (Amended) An inspection system of a terminal metal fitting having [an] a wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising:

a light source to illuminate the wire connecting portion;

an image-taking means to take an image of the wire connecting portion;

a dark box, with a dark inner surface, to cover at least an object side of the image-taking means, the light source, and the terminal metal fitting for preventing outer light from shining on the wire connecting portion; and

a judging means to binary-process an image of the wire connecting portion being illuminated by the light source and judge whether good or bad [of] as to a fastening condition of the electric wire by the crimping piece on a basis of an area being less than or not less than a threshold value in image information obtained by the binary processing,

wherein the image-taking means and the light source are arranged so that the light thrown from the light source and reflected by the crimping piece does not enter the image-taking means, and a sheathing portion of the electric wire is a light color.

5. (Amended) An inspection system of a terminal metal fitting having [an] a wire connecting portion having a wall carrying an electric wire and a crimping piece bent toward the wall so as to fasten the electric wire between the crimping piece and the wall, comprising:

a light source to illuminate the wire connecting portion;

an image-taking means to take an image of the wire connecting portion;

a judging means to binary-process an image of the wire connecting portion illuminated by the light source and judge good or bad of a fastening condition of the electric wire by the

crimping piece on a basis of an area being less than or not less than a threshold value in image information obtained by the binary processing,

wherein the image-taking means and the light source are arranged so that the light thrown from the light source and reflected by the crimping piece enters the image-taking means.

7. (Amended) The inspection system of the terminal metal fitting as set forth in any one of claims 2-6, wherein the judging means judges whether good or bad [of] as to a fastening condition of the electric wire on a basis of an area being less than or not less than a threshold value in an inspection area in the image of the wire connecting portion taken by the image-taking means, the inspection area being provided for each crimping piece and including at least partial image of the crimping piece.